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09/641,679	08/18/2000	Joong-Kyu Choi	P-107	7088

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EXAMINER

LIU, SHUWANG

ART UNIT	PAPER NUMBER
2634	7

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/641,679

Applicant(s)

CHOI, JOONG-KYU

Examiner

Shuwang Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-111 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-9, 17-19 and 24-28 is/are allowed.
- 6) ☒ Claim(s) 1-6, 10, 11, 13-16 and 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 01/08/04 have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meet the claimed limitation as rejected in claims 1, 10 and 20.

(1) regarding the reference of Bullock et al. (US 5,764,651):

Applicant's argument – First, "Bullock fails to disclose determining an average number of bit errors in the monitored portions of buffer as recited in claim 1. Rather, Bullock discloses averaging the time window." "Second, the Bullock patent fails to disclose 'controlling an alarm based on the average number of bit errors' as amended in claim 1.

Examiner's response – It is well known that the buffer stores width signal data for a portion of the buffer, e.g., a sliding window of width signal data. The size of the sliding window dictates the minimum size of the buffer. Bullock teaches the length (size) of the sliding window can be dynamically changed (column 6, lines 1-16). Therefore, the sliding window only monitors a portion of buffer which is less than size of the buffer. Furthermore, Bullock discloses controlling an alarm based on the average number of bit errors in the column 5, lines 1-49 and column 6, lines 1-39.

(2) regarding the reference of Burke et al. (US 6,310,911):

Regarding claims 1, 10 and 20:

Applicant's argument – Burke does not disclose monitoring for the portion of the buffers and determining an average number of bit errors stored in the monitored portion of the buffers and for then controlling an alarm based on the determined average.

Examiner's response – It is well known that the buffer stores width signal data for a portion of the buffer, e.g., a sliding window of width signal data. The size of the sliding window dictates the minimum size of the buffer. Burke et al. teaches the simple fixed window, blocked fixed window, simple sliding window, or exponential sliding window algorithms which are used to calculate the bit error rate only from a portion of the buffers. The sliding window algorithm is used for calculate an average. Furthermore, Burke et al. discloses controlling an alarm based on the average number of bit errors in the column 10, lines 24-37.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 11 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It unclear how an additional number of bit errors are stored in the buffers starting from the first buffer since the number of bit errors are already stored in the buffers starting from the first buffer, e.g., the buffer is already occupied by the number of bit errors. Furthermore, it unclear what at least partially full of the buffer means.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claim 1 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Bullock et al. (US 5,764,651).

As shown in figures 3 and 5-6, Bullock et al. discloses:

(1) regarding claim 1:

A method for measuring the bit error ratio of a transmission system,
comprising:

initializing a plurality of buffers (figure 6, column 6, lines 48-54);

storing a number of bit errors generated in a transmission during a period

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of time T in the plurality of buffers (column 6, lines 1-39, table 2 and column 9, lines 14-15);

monitoring a portion of buffers among the plurality of buffers for a time period less than T (column 4, line 45-column 5, line 25); and

determining an average number of bit errors in the monitored portion of buffers (sliding window algorithm, abstract and column 4, lines 45-67).

controlling an alarm based on the average number of bit errors (column 5, lines 1-49 and column 6, lines 1-16).

(2) regarding claim 23:

further comprising changing the portion of the buffer to be monitoring to a desired number of buffer (column 6, lines 1-39).

6. Claims 1-6, 10, 11, 13-16 and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Burke et al. (US 6,310,911).

As shown in figures 1 and 2, Burke et al. discloses:

A method for measuring the bit error ratio of a transmission system, comprising:

(1) regarding claim 1:

initializing a plurality of buffers (a circuit queue, column 7, lines 52-62, column 5 line 64-column 6, line 9 and column 3, line 61-column 4, line 29);

storing a number of bit errors generated in a transmission during a period of time T in the plurality of buffers (column 7, lines 52-62);

monitoring a portion of buffers among the plurality of buffers for a time period less than T (column 20, lines 64-67); and

determining an average number of bit errors in the monitored portion of buffers (sliding window algorithm, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

controlling an alarm based on the average number of bit errors.

(2) regarding claim 2:

wherein the plurality of buffers are sequentially stored starting from a first buffer, and the buffers are stored again starting from the first buffer when the last buffer is stored (column 7, lines 57-column 8, line 5).

(3) regarding claim 3:

wherein an E-BER alarm is generated if a current state is not an E-BER alarm generation state and the total number of bit errors of the monitored portion of buffers is more than a prescribed value (column 3, lines 16-60).

(4) regarding claim 4:

wherein an E-BER alarm is cleared if a current state is an E-BER alarm generation state and the total number of bit errors of the monitored portion of buffers is less than a prescribed value (column 3, lines 16-60).

(5) regarding claims 5 and 6:

wherein the prescribed value is an average number of error generated during the time period T (sliding window algorithm, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

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(6) regarding claim 10:

an apparatus for measuring the bit error ratio of a transmission system,
comprising:

a first error detector (1) to detect a bit error generated in a transmission line;

an error storing unit (memory or a circular queue not shown in figures), to
sequentially store a number of bit errors detected in the first error detector during the
period of time T (column 7, lines 52-62, column 5 line 64-column 6, line 9 and column 3,
line 61-column 4, line 29); a

plurality of buffers (memory or a circular queue not shown in figures) to store the
number of bit errors detected during time T (column 7, lines 52-62, column 5 line 64-
column 6, line 9 and column 3, line 61-column 4, line 29); and

a second error detector (2 and 3) to monitor at a portion of buffers of the plurality
of buffers, and determine an average number of bit errors within the portion of buffers
(sliding window algorithm, column 10, lines 24-56, column 12, lines 19-23 and column 3,
lines 34-52).

(7) regarding claim 11:

wherein the error storing unit sequentially stores the number of bit errors starting
from a first buffer, and the buffers are scored again starting from the first buffer when
the last buffer is stored (column 7, lines 57-column 8, line 5).

(8) regarding claim 13:

wherein the second error detector is an Excessive Bit Error ratio alarm detector
(column 3, line 1-60).

(9) regarding claim 14:

wherein the number of buffers in the portion of buffers is dynamically changeable (column 10, lines 20-56).

(10) regarding claim 15:

wherein an E-BER alarm is generated if the average number of bit errors of the portion of buffer exceeds a prescribed value (column 3, line 1-60).

(11) regarding claim 16:

wherein the prescribed value is an average number of bit errors detected by the first error detector during the time period T (sliding window algorithm, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

(12) regarding claim 20:

A method of measuring the bit error ratio in a transmission system, comprising:
initializing a plurality of buffers (a circuit queue, column 7, lines 52-62, column 5 line 64-column 6, line 9 and column 3, line 61-column 4, line 29);

accumulating a number of bit errors in a transmission signal during a first prescribed time interval (column 4, lines 64-67);

determining an active or inactive state of an excessive bit error ratio (E-BFR) alarm (column 3, 1-60); and

performing one of generating and clearing the E-BER alarm based on an average number of errors in a subset of the plurality of buffers (sliding window algorithm, column 3, lines 1-60, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

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(13) regarding claim 21:

wherein the E-BER alarm is generated when the E-BER alarm is not active and an average number of bit errors in a selected number of buffers during the prescribed period exceeds the total number of bit errors during a second prescribed time period (column 3, 1-60).

(14) regarding claim 22:

wherein the E-BER alarm is cleared when the E-BER alarm is active and an average number of bit errors in a selected number of buffers during the prescribed period does not exceed the total number of hit errors during a second prescribed time period (column 3, lines 1-60).

Allowable Subject Matter

7. Claims 7-9, 17-19 and 24-28 are allowed.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Shuwang Liu
Primary Examiner
Art Unit 2634

March 9, 2004